

Amendments to the claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-91. (Canceled)

92. (New) A device for communicating over a power line having a voltage greater than one thousand volts, the power line forming part of a power distribution system that supplies power to one or more customer premises and wherein each of the one or more customer premises receives power via a low voltage power line that is electrically connected to a distribution transformer, the device comprising:

a capacitive coupler configured to couple data to and from the power line;

a first modem configured to communicate data over the power line via said coupler;

a downstream interface communicatively coupled to said first modem and configured to communicate with one or more user devices; and

wherein said coupler, said first modem, and said downstream interface are configured to provide at least part of a data path between the power line and one or more user devices at one or more customer residences to thereby bypass the distribution transformer.

93. (New) The device of claim 92, wherein said downstream interface comprises a wireless transceiver configured to communicate with one or more remote wireless transceivers.

94. (New) The device of claim 93, wherein said wireless transceiver is configured to provide wirelessly communications via an IEEE 802.11 protocol.

95. (New) The device of claim 93, wherein the one or more remote wireless transceivers are disposed at one or more customer premises and communications via said wireless transceiver bypass the external low voltage power lines.

96. (New) The device of claim 93, wherein said wireless transceiver is configured to form a wireless local area network with the one or more remote wireless transceivers.

97. (New) The device of claim 92, further comprising a routing device in communication with said first modem.

98. (New) The device of claim 92, further comprising a routing device in communication with said first modem and wherein said routing device is configured to monitor usage data.

99. (New) The device of claim 92, further comprising a routing device in communication with said first modem and wherein said routing device is configured to perform throughput control functions.

100. (New) The device of claim 92, further comprising a routing device in communication with said first modem and wherein said routing device is configured to match data packets with destinations.

101. (New) The device of claim 92, wherein said first modem is configured to communicate over the power line via time division multiplexing.

102. (New) The device of claim 92, wherein said downstream interface comprises a second modem configured to be communicatively coupled a low voltage power line for communications with one or more user devices.

103. (New) The device of claim 102, wherein said second modem is configured to communicate orthogonal frequency division multiplexed (OFDM) data signals over the low voltage power line.

104. (New) The device of claim 102, wherein said first modem and said second modem are configured to communicate with remote devices via wideband signals.

105. (New) The device of claim 102, wherein said second modem is configured to communicate over the low voltage power line using a plurality of carriers and wherein at least some of said carriers are between two megahertz and twenty-four megahertz.

106. (New) The device of claim 92, wherein said downstream interface comprises a second modem configured to be communicatively coupled to a twisted pair conductor set for communications with one or more user devices.

107. (New) The device of claim 92, wherein said downstream interface comprises a transceiver configured to be communicatively coupled to a fiber optic conductor for communications with one or more user devices.

108. (New) The device of claim 92, wherein said downstream interface comprises a second modem configured to be communicatively coupled to a coaxial cable for communications with one or more user devices.

109. (New) The device of claim 92, wherein said first modem is communicatively coupled to said capacitive coupler via a filter.

110. (New) The device of claim 92, wherein said downstream interface is configured to receive utility data.

111. (New) The device of claim 92, wherein said downstream interface is configured to receive utility data via a wireless link.

112. (New) The device of claim 92, wherein said downstream interface is configured to receive utility data via a low voltage power line.

113. (New) The device of claim 92, wherein said downstream interface is configured to communicate video data.

114. (New) The device of claim 92, wherein said downstream interface is configured to communicate IP telephony data.

115. (New) A device for communicating over a power line having a voltage greater than one thousand volts, the power line forming part of a power distribution system that supplies power to a plurality of customer premises and wherein each of the plurality customer premises receives power via a low voltage power line that is electrically connected to a distribution transformer, the system comprising:

- a capacitive coupler configured to couple data to and from the power line;
- a first modem configured to communicate data over the power line via said coupler;
- a second modem configured to communicate with one or more user devices; and

a routing device communicatively coupled to said first modem and said second modem;

wherein said coupler, said first modem, and said second modem are configured to provide at least part of a data path between the power line and one or more user devices at one or more customer residences to thereby bypass the distribution transformer.

116. (New) The device of claim 115, wherein said second modem comprises a wireless transceiver configured to communicate with one or more remote wireless transceivers.

117. (New) The device of claim 116, wherein said wireless transceiver is configured to provide wirelessly communications via an IEEE 802.11 protocol.

118. (New) The device of claim 116, wherein the remote wireless transceivers are disposed in one or more customer premises and communications via said wireless transceiver bypass the external low voltage power lines.

119. (New) The device of claim 116, wherein said wireless transceiver is configured to form a wireless local area network with the one or more remote wireless transceivers.

120. (New) The device of claim 115, wherein said routing device is configured to monitor usage data.

121. (New) The device of claim 115, wherein said routing device is configured to perform throughput control functions.

122. (New) The device of claim 115, wherein said routing device is configured to match data packets with destinations.

123. (New) The device of claim 115, wherein said first modem is configured to communicate over the power line via time division multiplexing.

124. (New) The device of claim 115, wherein said second modem is configured to be communicatively coupled a low voltage power line for communications with the one or more user devices.

125. (New) The device of claim 124, wherein said second modem is configured to communicate OFDM data signals over the low voltage power line.

126. (New) The device of claim 115, wherein said first modem and said second modem are configured to communicate with remote devices via wideband signals.

127. (New) The device of claim 115, wherein said second modem is configured to communicate over the low voltage power line using a plurality of carriers and wherein at least some of said carriers are between two megahertz and twenty-four megahertz.

128. (New) The device of claim 115, wherein said second modem is configured to be communicatively coupled to a twisted pair conductor set for communications with the one or more user devices.

129. (New) The device of claim 115, wherein said second modem is configured to be communicatively coupled to a fiber optic conductor for communications with the one or more user devices.

130. (New) The device of claim 115, wherein said second modem is configured to be communicatively coupled to a coaxial cable for communications with the one or more user devices.

131. (New) The device of claim 115, wherein said first modem is communicatively coupled to said capacitive coupler via a filter.

132. (New) The device of claim 115, wherein said second modem is configured to receive utility data.

133. (New) The device of claim 115, wherein said second modem is configured to receive utility data via a wireless link.

134. (New) The device of claim 115, wherein said second modem is configured to receive utility data via a low voltage power line.

135. (New) The device of claim 115, wherein said second modem is configured to communicate video data.

136. (New) The device of claim 115, wherein said second modem is configured to communicate IP telephony data.

137. (New) A method of communicating over a power line having a voltage greater than one thousand volts, the power line forming part of a power distribution

system that supplies power to a plurality of customer premises and wherein each of the plurality customer premises receives power via a low voltage power line that is electrically connected to a distribution transformer, the method comprising:

- capacitively receiving first data in a first data signal from power line, wherein in the first data signal comprises a wideband signal;

- demodulating the first data signal to provide a first data packet;

- matching the first data packet with a destination;

- modulating one or more carriers with the first data to provide a second data signal;

- transmitting the second data signal to a first remote device disposed in a customer premises;

- receiving second data from a remote device;

- modulating one or more carriers with the second data to form a second data signal; and

- capacitively coupling the second data signal to the power line.

138. (New) The method of claim 137, further comprising establishing a wireless local area network with a plurality of remote transceivers.

139. (New) The method of claim 137, further comprising monitoring data usage.

140. (New) The method of claim 137, further comprising controlling data throughput.

141. (New) The method of claim 137, wherein said transmitting the second data signal comprises wireless transmitting the second data.

142. (New) The method of claim 137, wherein said transmitting the second data signal comprises wirelessly transmitting the second data signal via an IEEE 802.11 protocol.

143. (New) The method of claim 137, wherein the second data signal is coupled to the power line according to a time division multiplexing scheme.

144. (New) The method of claim 137, wherein said transmitting comprises transmitting the second data signal over a low voltage power line.

145. (New) The method of claim 137, wherein the second data signal comprises an orthogonal frequency division multiplexed data signal.

146. (New) The method of claim 137, wherein said transmitting comprises transmitting the second data signal over a twisted pair conductor set.

147. (New) The method of claim 137, wherein said transmitting comprises transmitting the second data signal over a fiber optic conductor.

148. (New) The method of claim 137, wherein said transmitting comprises transmitting the second data signal over a coaxial cable.

149. (New) The method of claim 137, wherein the first data signal comprises an orthogonal frequency division multiplexed data signal.

150. (New) The method of claim 137, further comprising providing authorization functions.

151. (New) The method of claim 137, wherein said second data comprises utility usage data.

152. (New) The method of claim 137, wherein the first data comprises Internet Protocol (IP) telephony data.

153. (New) The method of claim 137, wherein the first data comprises video data.

154. (New) The method of claim 137, wherein the first data comprises video conferencing data.